

AN ADDITIONAL AID TO THE IDENTIFICATION OF *AMPHIPYRA*
PYRAMIDEA (L.) AND *A. BERBERA* SVENSSONI (FLETCHER)
(LEPIDOPTERA: NOCTUIDAE)

P. Q. WINTER

West End Farm, Muston, Filey, North Yorkshire, YO14 0ES.

It is now just over 20 years since *Amphipyra pyramidea* (L.) and *A. berbera svenssoni* (Fletcher) were distinguished as separate species (Fletcher, 1968) and although the differences are relatively obvious once both have been compared, much confusion remains. In Yorkshire, for example, *A. pyramidea* appears to be virtually absent and there is often doubt over the true identity of *A. berbera*.

The criteria used by most people seem to be underside characters as described by Goater and Christie (1969) and later summarized by Heath (1971) and Skinner (1984). Even these are only subtle differences, requiring specimens of both species for initially identifying with confidence. Undersides of the wings are also rather awkward to examine on live specimens and some people resort to using the distribution of black on the abdomen alone, which is far from reliable as regards upperside markings. Goater (in Heath and Emmet, 1983) gives a good comparative description of both species, saying that the postmedian line is parallel to the termen in *A. berbera*, whereas in *A. pyramidea* it converges towards the termen at the tornus. Yet there is no mention of the consequent fact that the ante- and post-median lines in *A. pyramidea* are almost parallel to each other, while in *A. berbera* they are noticeably convergent at the inner margin.

When there is uncertainty, all literature points to the genitalia and distinct differences between the palps appear to have been overlooked. To the naked-eye they look longer, narrower and evenly tapered throughout the second and third segments in *A. pyramidea*, compared with the more robust shape and clear junction of the second and third segments in *A. berbera*. Structurally, in fact, they are almost identical and examination with a hand-lens reveals that coloration is responsible for the disparity.

The palps of both species have long hairs projecting anteriorly from the first segment, giving a bearded appearance to the second. Together, the second and third segments measure approximately 3.00 mm. The tip of segment three is whitish in both species, but in *A. pyramidea* it is confluent with a predominance of pale cream or ochreous scales down the front of this and the second segment. A variable number of dark scales are intermingled among these to produce a greyish colour, blending with the 'beard' and adding to the impression of length. There is also a distinct division between the pale front and dark-brown or blackish sides, which are virtually devoid of light-coloured scales and account for the tapered effect and accentuated lateral flattening. In *A. berbera*, on the other hand, chocolate-brown scales uniformly clothe all except the tip, which stands out as a bright point. Some have white scales sprinkled across the front and onto the sides of segments two and three without affecting the overall dark appearance. When in sufficient quantity, however, there is a silvery sheen and the sides look darker, but with no clear line of contrast and a white tip remaining the prominent feature. Others lack white scales altogether and evidence suggests these are mainly from northern localities (Beaumont, pers. comm.). The 'beard' in *A. berbera* tends to be overlooked against a background of light-fuscous hair and the proximal end of the second segment, being considerably darker, is clearly outlined. An impression of the principal difference is given in Fig. 1, where (a) shows the pale front to the palps of *A. pyramidea* contrasting sharply against much darker sides and (b) shows the conspicuous, whitish tips to those of *A. berbera*.

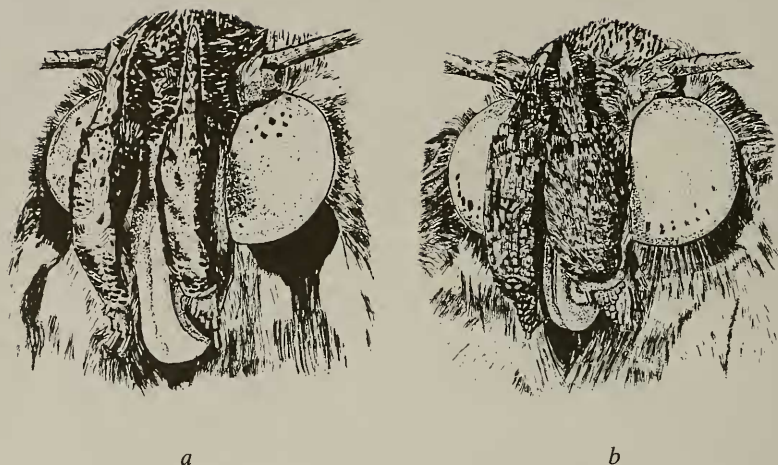


Fig. 1. Partial anterior view to show difference between palps of (a) *Amphipyra pyramidea* (L.) and (b) *A. berbera svenssoni* (Fletcher).

It should be noted that two out of the twenty-five or thirty *A. pyramidea* inspected had palps with tips indicative of *A. berbera*. In one of these, pale scales were missing from segment three, but segment two was typical. In the other, though still having the longer, tapered appearance, both segments were smoky-brown with just one or two pale scales and only marginally darker sides. Nevertheless, wing markings of each individual was highly characteristic.

Comparisons were made between specimens of *A. pyramidea* from Wales, the Bristol area, Wiltshire, Hampshire, Buckinghamshire, north-west London, Essex and Norfolk. Most of the *A. berbera* came from Yorkshire: others originating from north-west London, Buckinghamshire, Berkshire and Hampshire. Museum material, with only one *A. berbera* present, was dated from 1893 up to 1929, but a few labels were missing. All other specimens were caught after 1970.

A glance at the palps of either *A. pyramidea* or *A. berbera*, therefore, should be reasonably reassuring for anyone trying to identify these species, particularly where a microscope is not available. It is also a useful means of checking live specimens when wings are worn. In this situation boxed moths are often shy, but can usually be coaxed onto a piece of cotton wool moistened with dilute honey or sugar solution. Feeding usually begins at once and then manipulation is easy.

ACKNOWLEDGEMENTS

Thanks are due to Mr C. I. Massey for doubling the number of available *A. pyramidea* by allowing access to the Lepidoptera collection in Woodend Museum, Scarborough. I am especially indebted to Mr H. E. Beaumont for checking specimens of both species in his collection and passing constructive comments. Finally, several friends have sought an opinion on the identity of *A. berbera* and this has also helped to raise numbers.

REFERENCES

- Fletcher, D. S. 1968. *Amphipyra pyramidea* (Linnaeus) and *A. berbera* Rungs (Lep., Noctuidae), two species confused. *Entomologist's Gaz.* **19**: 91–106, pls. 5, 6; text figs. 1–10.
- Goater, B. & Christie, L. 1969. A note on some differences in the undersides of *Amphipyra pyramidea* (Linnaeus) and *A. berbera svenssoni* Fletcher (Lep., Noctuidae). *Entomologist's Gaz.* **20**: 259–261.
- Heath, J. 1971. Lepidoptera Distribution Maps Scheme guide to the critical species. Part IV. *Entomologist's Gaz.* **22**: 19–22; text figs. 1–10.
- Heath, J. & Emmet, A. M. (Eds), 1983. *The moths and butterflies of Great Britain and Ireland*. Volume 10, Noctuidae (Part II) and Agaristidae. 459 pp., 13 pls. Colchester: Harley Books.
- Skinner, B. 1984. *Colour identification guide to moths of the British Isles*. 267 pp., 42 pls. London: Viking.

BOOK REVIEW

The moths and butterflies of Northumberland and Durham. Part I. Macrolepidoptera. T. C. Dunn and J. D. Parrack. The Northern Naturalists' Union, 284 pages. 1986 £7. Available from T. C. Dunn, The Poplars, Durham Road, Chester-le-Street, Co. Durham.

This book meets a long felt want for collected information about the three vice-counties since J. E. Robson's *Catalogue of the Lepidoptera* in 1899.

After a short foreword, explanatory introduction and preface, the text deals in detail with the species, some 450 in number, of which about 60 are additional to those in the *Catalogue*, but of about 45 there are no records since 1950, and others since only earlier in this century. Much attention is paid to the very large changes in abundance and distribution in the area, but there is also much interesting information about local habitats, voltinism, and larval food plants. The species are arranged and numbered according to Bradley and Fletcher's *Log book of British butterflies and moths*, with English and scientific names, and their numbers in the 'Catalogue' in brackets.

Maps are on a tetrad square basis with different symbols for those dated before 1900, from 1900 to 1949, and from 1950 to the present. They are set out four to a page, as far as possible opposite to the text in which the same species are discussed. Readers who are not familiar with the area may, however, have some difficulty in correlating them in detail with the text because place names only are used in the text and because many of the earlier records referred to in it are hidden by the later symbols. A whole page map to show place names would reduce these difficulties.

There are many points of special interest. In the butterflies a page is devoted to the history and problems concerned with *Aricia artaxerxes* ssp. *salmacis* Steph., the Castle Eden or Durham Argus, which is now found only in that county, though in past it occurred also on limestone in Northumberland. The author follows J. W. Heslop-Harrison in believing that on the coast the true *salmacis* hybridizes with some other sub-species of *A. artaxerxes*, not of *A. agestis* as was once believed. He also says that *Strymonidia w-album*, recently found in two places in Durham, here reaches a new northern limit in Britain. The same was also true of *Celastrina argiolus* which was found in several places in 1948 and 1950 but has not been seen since. Among the noctuid moths 28 species have been added since Robson's 'Catalogue', mainly